WTB Wheel User's Manual

for all WTB wheels

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NOTE TO RETAILERS: If you are installing this component for your customer, please make sure that this User's Manual is passed along to the customer after you use it.

GI3-0309

Thank you for the confidence you have shown in WTB by selecting one of our products. We appreciate your business, and your satisfaction is important to us.

Because we would like to make sure that you get the best performance and longest service life from any WTB product you use, we urge you to read these instructions *before* you assemble or install your new WTB components.

And if you have any questions or problems, or feel you do not understand something about the product, its installation or its use, please talk to any WTB dealer or check with us at wtb.com.

GI1-0508-1

IMPORTANT NOTE: This WTB user's manual for this specific component on your bicycle is not a substitute for all the safety and use information contained in the owner's manual that was supplied with your bicycle. If you do not have such an owner's manual, contact the bicycle's manufacturer or retailer for a copy. To the extent that your bicycle user's manual and this component part user's manual conflict as to the use of this specific WTB component, this WTB user's manual should be followed. If you are unsure about the resolution of a conflict between this manual and any other manual or set of instructions, please consult your local bicycle retailer.

GI2-0309

1. Before you start

⚠ **GENERAL WARNING:**

The fact that you selected one or more WTB components for your bike indicates that you are probably a rider of above average experience; but don't allow that to lull you into complacency. *No matter how experienced you are as a cyclist, do not fail to read this WARNING or to carefully follow the instructions below.*

Technological advances have made bicycles and bicycle components more complex, and the pace of innovation is increasing. Many bicycle component installation, service and repair tasks require special knowledge and tools. *Improper installation, adjustment or service may result in damage to the component or component failure.*

All WTB products should be installed by a qualified bicycle mechanic using appropriate professional tools. *WTB assumes no liability for products which are improperly installed, assembled or configured.*

When installing WTB components in conjunction with another manufacturer's components, you should always follow that manufacturer's instructions for their components and WTB's for WTB components. If there is a conflict, ask your dealer to help you resolve it. *WTB assumes no liability for damage caused by installing other manufacturers' products.*

After any installation, adjustment or repair to your bicycle or components, test your work by taking a test ride in a controlled environment, away from cars, other cyclists, obstacles or other hazards.

Failure to follow these instructions can result in component failure. Component failure can cause you to lose control of the bicycle and fall, leading to serious injury or death.

GW2-0508-1

a. Intended Use: This product is not intended for use by children age 12 and under. Check the Intended Use information for his product on our Web site at wtb.com to make sure this product is compatible with how you intend to use it. Also please check the website to make sure you have the most current version of the instructions for this product. If you have any questions or doubts, check with your WTB dealer.

IU1-1108-3

⚠ **WARNING: Understand your bike and its intended use. Choosing the wrong component for your intended purpose can be hazardous. Also read, in its entirety, the first WARNING of the Maintenance and Repair section of these instructions.**
IU2-0508-1

b. Compatibility:

(1) Check to make sure that your WTB wheelset is compatible with your bicycle fork and frame, and that the tires you plan to use are compatible with your WTB wheelset and your bicycle fork and frame. If you have any questions or doubts, check with your WTB dealer or a qualified bicycle mechanic. For information on WTB tires or on tire/rim compatibility, see wtb.com.
WH1-0309

(2) WTB rear hubs are designed for use with Shimano® and SRAM® pattern splined single, eight and nine speed cogs. Make sure that the freewheel cog set you plan to use is compatible with your hub in terms of the manufacturer, model and number of gears/cogs in the cluster. Also make sure to follow the cog manufacturer's instructions and use the proper tools to install and torque the correct cogset to your hub. If you have any questions or doubts, check with your WTB dealer or a qualified bicycle mechanic.
HU1-0508-1

⚠ **WARNING: Failure to confirm compatibility, properly install, operate and maintain any component or accessory can result in serious injury or death.**
CO1-0508-1

d. Correct Rim Strip: Use only the correct size rim strip or tape width, thickness and material. The rim strip or tape must be chosen to guarantee the complete covering of all spoke holes and spoke heads during use, not slip from side to side in the rim or slip around the rim's diameter, and permit proper mounting, fit and seating of the tire and tube. Dirt, moisture and tire mounting technique can contribute to the slippage or movement of some types of rim tape.
RS1-0508-1

⚠ **WARNING: Failure to use the correct width rim strip or tape on your WTB wheel, or improper installation of any rim strip or tape can result in improper seating of the tire bead in the rim, which may lead to sudden tire deflation. Failure to make sure that the rim strip or tape covers all spoke holes completely and that it stays in place during use may lead to sudden tire deflation. Sudden tire deflation can cause loss of control, resulting in serious injury or death. If you have any questions about the correct size, material or fitting of the rim strip or rim tape, check with your WTB dealer or a qualified bicycle mechanic.**
RS2-0508-1

2. Installation & Removal

WTB wheels with LaserDisc Lite hubs are secured to the bike frame and fork with an over-center cam action mechanism, often called a Quick Release (fig. 1). The WTB LaserDiscXC and LaserDisc Trail 29er are also available with a single speed rear wheel using the LaserDisc Single Duty rear hub which can be secured with either an optional Quick Release or with the supplied hex key cap bolts which are threaded into the hollow hub axle, called a Bolt-On system (fig.2). WTB wheels which use a LaserDisc Super Duty and LaserDisc QR 15 hub are secured with through-axles supplied by the frame or fork manufacturer. **To install or remove a wheel with a WTB LaserDisc Super Duty hub, carefully follow the frame or fork manufacturer's instruction for that model through-axle fitting.**

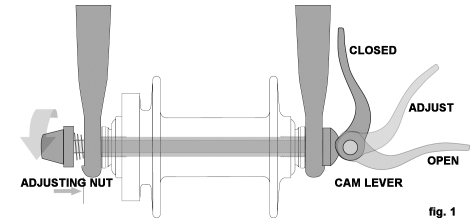


fig. 1

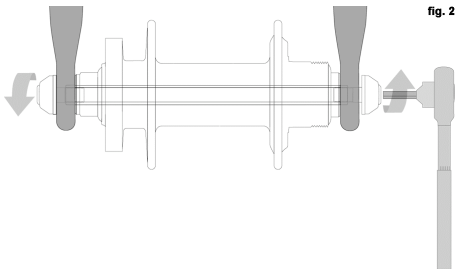


fig. 2

a. Over-center cam action hubs

Most bicycles have front forks which utilize a secondary wheel retention device molded, cast or machined into the outer faces of the front fork dropouts to reduce the risk of

the wheel disengaging from the fork if the wheel is incorrectly secured. Secondary retention devices are not a substitute for correctly securing your front wheel.

⚠ **WARNING: Do not remove or disable the secondary retention device. As its name implies, it serves as a back-up for a critical adjustment. If the wheel is not secured correctly, the secondary retention device can reduce the risk of the wheel disengaging from the fork. Secondary retention devices are not a substitute for correctly securing your wheel. Failure to properly secure the wheel can cause the wheel to wobble or disengage, which could cause you to lose control and fall.**

(1) Adjusting the over-center cam action mechanism (fig. 1)

The wheel hub is clamped in place by the force of the over-center cam pushing against one dropout and pulling the tension adjusting nut, by way of the skewer, which runs through the hollow axle, against the other dropout. The amount of clamping force is controlled by the tension adjusting nut. Turning the tension adjusting nut clockwise while keeping the open cam lever from rotating increases clamping force; turning it counter-clockwise while keeping the open cam lever from rotating reduces clamping force. Less than half a turn of the tension adjusting nut can make the difference between safe clamping force and unsafe clamping force.

⚠ **WARNING: The full force of the cam action is needed to clamp the wheel securely. Holding the nut with one hand and turning the lever like a wing nut -with the other hand until everything is as tight as you can get it will not clamp a cam action wheel safely in the dropouts.**

b. Installing a WTB Front Wheel with over-center cam action quick release

⚠ **CAUTION: Be careful not to damage the disc, caliper or brake pads when re-inserting the disc into the caliper. Never activate a disc brake's control lever unless the disc is correctly inserted in the caliper.**

(1) Move the cam lever so that it curves away from the wheel (fig.1). This is the OPEN position.

(2) With the steering fork facing forward, insert the wheel between the fork blades so that the axle seats firmly at the top of the fork dropouts. The cam lever should be on rider's left side of the bicycle (fig. 1).

(3) Holding the cam lever in the ADJUST position with your right hand, tighten the tension adjusting nut with your left hand until it is finger tight against the fork dropout (fig. 1).

(4) While pushing the wheel firmly to the top of the slots in the fork dropouts, and at the same time centering the wheel rim in the fork, move the cam lever upwards and swing it into the CLOSED position (fig. 1). The lever should now be parallel to the fork blade and curved toward the wheel. To apply enough clamping force, you should have to wrap your fingers around the fork blade for leverage, and the lever should leave a clear imprint in the palm of your hand.

NOTE: If the lever cannot be pushed all the way to a position parallel to the fork blade, return the lever to the OPEN position. Then turn the tension adjusting nut counterclockwise one-quarter turn and try tightening the lever again.

⚠ **WARNING: Securely clamping the wheel with a cam action retention device takes considerable force. If you can fully close the cam lever without wrapping your fingers around the fork blade for leverage, the lever does not leave a clear imprint in the palm of your hand, and the serrations on the wheel fastener do not emboss the surfaces of the dropouts, the tension is insufficient. Open the lever; turn the tension adjusting nut clockwise a quarter turn; then try again.**

(5) Spin the wheel to make sure that it is centered in the frame and clears the brake pads; then squeeze the brake lever and make sure that the brakes are operating correctly.

c. Removing a WTB Front Wheel with over-center cam action quick release

⚠ CAUTION: Disc rotors have sharp edges, and both rotor and caliper can get very hot during use. Exercise care in touching the rotor or caliper.

(1) Move the cam lever from the locked or CLOSED position to the OPEN position (fig. 1).
(2) Loosen the tension adjusting nut enough to allow removing the wheel from the fork dropouts. You may need to tap the top of the wheel with the palm of your hand to release the wheel from the front fork.

d. Installing a WTB Rear Wheel

⚠ CAUTION: Be careful not to damage the disc, caliper or brake pads when re-inserting the disc into the caliper. Never activate a disc brake's control lever unless the disc is correctly inserted in the caliper.

(1) With a cam action system, move the cam lever to the OPEN position (fig. 1). The lever should be on the side of the wheel opposite the derailleur and freewheel sprockets.
(2) On a derailleur bike, make sure that the rear derailleur is still in its outermost, high gear, position; then pull the derailleur body back with your right hand. Put the chain on top of the smallest freewheel sprocket.
(3) On a LaserDisc Single Duty hub, remove the chain from the front sprocket, so that you have plenty of slack in the chain. Put the chain on the rear wheel sprocket.
(4) Then, insert the wheel into the frame dropouts and pull it all the way in to the dropouts.
(5) On a LaserDisc Single Duty hub, replace the chain on the chainring; pull the wheel back in the dropouts so that it is straight in the frame and the chain has about 1/4 inches of up-and-down play.
(6) With a cam action system, move the cam lever upwards and swing it into the CLOSED position (fig. 1). The lever should now be parallel to the seat stay or chain stay and curved toward the wheel. To apply enough clamping force, you should have to wrap your fingers around the fork blade seat stay or chain stay for leverage, and the lever should leave a clear imprint in the palm of your hand.
(7) With a Single Duty hub, tighten the fasteners to 10 Nm (90 in. lbs) torque.

NOTE: If, on a cam action system, the lever cannot be pushed all the way to a position parallel to the seat stay or chain stay, return the lever to the OPEN position. Then turn the tension adjusting nut counterclockwise one-quarter turn and try tightening the lever again.

⚠ WARNING: Securely clamping the wheel with a cam action retention device takes considerable force. If you can fully close the cam lever without wrapping your fingers around the seat stay or chain stay for leverage, the lever does not leave a clear imprint in the palm of your hand, and the serrations on the wheel fastener do not emboss the surfaces of the dropouts, the tension is insufficient. Open the lever; turn the tension adjusting nut clockwise a quarter turn; then try again.

(8) Spin the wheel to make sure that it is centered in the frame and clears the brake pads; then squeeze the brake lever and make sure that the brakes are operating correctly.

e. Removing a WTB Rear Wheel

(1) If you have a multi-speed bike with a derailleur gear system: shift the rear derailleur to high gear (the smallest, outermost rear sprocket).

If you have a single-speed bike with a WTB LaserDisc Single Duty hub, go to step (3) below.

(2) On a derailleur gear system, pull the derailleur body back with your right hand.

(3) With a cam action system, move the quick-release lever to the OPEN position (fig. 1). With the Single Duty hub, loosen the fasteners with a 5mm hex wrench (fig. 2); then push the wheel forward or down far enough to be able to remove the chain from the rear sprocket.

(4) Lift the rear wheel off the ground a few inches and remove it from the rear dropouts.

3. Maintenance and Repair

⚠ WARNING:

Many bicycle component installation, service and repair tasks require special knowledge and tools. Do not begin any installation, adjustments or service on your bicycle until you have learned from your dealer how to properly complete it. Improper installation, configuration, adjustment or service may result in damage to the component or component failure. Component failure can cause you to lose control and fall.

BPSA-OM9-5

Like any mechanical device, a bicycle and its components are subject to wear and stress. Different materials and mechanisms wear or fatigue from stress at different rates and have different life cycles. If a component's life cycle is exceeded, the component can suddenly and catastrophically fail, causing serious injury or death to the rider. Creaks, scratches, cracks, fraying and discoloration are signs of stress-caused fatigue and indicate that a part is at the end of its useful life and needs to be replaced. While the materials and workmanship of your bicycle or of individual components may be covered by a warranty for a specified period of time by the manufacturer, this is no guarantee that the product will last the term of the warranty. Product life is often related to the kind of riding you do and to the treatment to which you submit the bicycle and its components. The warranty is not meant to suggest that the bicycle or a component cannot be broken or will last forever. It only means that the bicycle or component is covered subject to the terms of the warranty.

BPSA-OM9-5A

The "useful life" of this component (the time during which the component is safe to ride) will be *reduced* if (1) you use it more than the average user; (2) you are heavier than the average rider; (3) the terrain/roads you ride on is rougher than average; (4) you tend to be harder on components than the average rider; (5) you fail to follow its installation instructions or maintenance instructions, including lubrication and adjustment; (6) it must endure more adverse environmental conditions than the average component (i.e. sweat, corrosive mud, salty beach air etc.); (7) you damage/weaken it in a crash, jump or through other abuse; (8) you fail to purchase the appropriate model of product for the type of riding it endures; and/or (9) you race with the component or participate in any other type of extreme, aggressive riding such as *Aggro, Hucking, Freeride, North Shore, Downhill, Jumping, Stunt Riding, etc*. The more factors you meet and the more often they occur, the more this component's life will be reduced, however it is impossible to say how much.

Racing (road, mountain or triathlons) places extreme stress on bicycles and their components (like it does riders) and significantly shortens their usable or "useful" life (the time during which the component is safe to ride). If you participate in these types of events, the lifetime of the product may be significantly shortened depending upon the level and amount of racing. The "normal wear" of a component may differ greatly between competitive and non-competitive uses, which is why professional level riders often use new bikes and components each season as well as having their

bikes serviced by professional mechanics after each ride. Particular care should be placed in the regular examination of your bicycle and it's components to insure your safety.
UL2-0508-1

If you engage in extreme, aggressive stunt or competition riding, *you will get hurt,* and you voluntarily assume a greatly increased risk of injury or death.

Not all bicycles, components or equipment are designed for these types of riding, and those that are may not be suitable for all types of aggressive riding. Check with the bicycle's or component's manufacturer about suitability before engaging in extreme riding.

When riding fast down hill, you can reach speeds achieved by motorcycles, and therefore face similar hazards and risks. Have your bicycle and equipment carefully inspected by a qualified mechanic and be sure it is in perfect condition. Consult with expert riders, area site personnel and race officials on conditions and equipment advisable at the site where you plan to ride. Wear appropriate safety gear, including an approved full face helmet, full finger gloves, and body armor. Ultimately, it is your responsibility to have proper equipment and to be familiar with course conditions.

Although many catalogs, advertisements and articles about bicycling depict riders engaged in extreme riding, this activity is extremely dangerous, increases your risk of injury or death, and increases the severity of any injury. Remember that the action depicted is being performed by professionals with many years of training and experience. Know your limits and always wear a helmet and other appropriate safety gear. Even with state-of-the-art protective safety gear, you could be seriously injured or killed when jumping, stunt riding, riding downhill at speed or in competition.
BPSA-OM9-2F

a. Maintenance

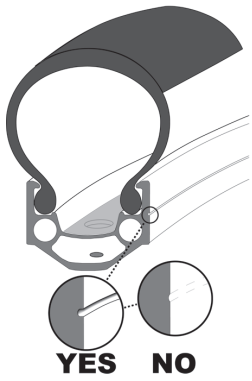
WTB LaserDisc wheels use sealed bearings and protected mechanisms; but, like anything mechanical, they are subject to wear and corrosion from moisture, dirt and salt. The best maintenance for your WTB wheels is to clean them with water and a soft brush or lint-free cloth.

Keep wheel rims clean and free of grit, dirt and oil or grease. Never use strong abrasive materials or chemicals to clean your rims, as they can damage rim or tire surfaces and weaken the rim sides or tire and tube integrity.

Do not use water under high pressure to blast off dirt and mud. The water could penetrate the seals and damage the bearings and other metal parts.

Periodically lubricate the threads and cam surfaces on the quick release skewer or the threads on the axle bolts of the Single Duty hub.

Before each use, check brake wear and operation; spoke tension, rim wear, damage and trueness; and tire fit, wear, damage and inflation. Spin each wheel slowly and look for any signs of damage: dents, bulges, cracks, or deformation of the rims. Check spoke tension, by spinning the wheel to make sure it is true (no side-to-side wobble, no up-and-down hop); by squeezing pairs of spokes to make sure none are loose or broken; and by plucking each spoke to make sure they all sound about the same. If you discern a difference in tension when squeezing two adjoining spokes or in the pitch of the sound of a plucked spoke this may indicate a significant difference in that spoke's tension. If in doubt about spoke tension or wheel trueness, **do not ride the bike**. Take it to a qualified bicycle mechanic.



With rim brakes, check that the wear indicator on the sidewall braking surface is still clearly visible.

Before every ride, check the tires for excess wear, cuts in the tread and cuts or bulges in the sidewall. Check the tire pressure of both tires. The tire's pressure rating is marked on the sidewall.

⚠ **CAUTION: Spoke tensioning and wheel truing is a highly refined skill which requires expensive special tools and experience. Do not attempt to tension or true a wheel unless you have the knowledge, experience and tools needed to do the job correctly.**
WH2-0508-1

⚠ **WARNING: Do not ride a bike with a damaged tire or rim. Riding a damaged tire or rim may lead to sudden tire deflation or improper braking function. Sudden tire deflation or improper braking function can cause loss of control, resulting in serious injury or death. Replace damaged tires and rims before riding the bike.**

Never inflate a tire beyond the maximum pressure, or ride a tire with less than the minimum pressure marked on the tire's sidewall. Exceeding the recommended maximum or minimum pressure may cause sudden tire failure. Tire failure can cause loss of control, resulting in serious injury or death.

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b. Service and Repair

We strongly urge you to have any servicing or repair of your WTB components done by a qualified bicycle mechanic with the appropriate tools, knowledge and experience. If you believe that you are qualified to service, replace parts or repair a WTB component, please download, read and follow the Service Instructions at wtb.com for the component which you plan to repair.

SE1-0608-2

⚠ **WARNING: Wheel truing and spoke tension adjustment require special skills and tools. Do not attempt to tension or true a wheel. Take the wheel to a qualified bicycle mechanic before riding.**

Wheel rims with dents, bulges, cracks, or deformation are unsafe to ride and cannot be repaired. They must be replaced. Rim replacement requires special skills and tools. Do not attempt to replace a wheel rim. Take the wheel to a qualified bicycle mechanic before riding.

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4. Replacement Parts

⚠ **WARNING: Use only genuine WTB replacement parts and follow the Service Instructions at wtb.com. Failure to do so could compromise the safety or performance of the component and result in component failure.**

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5. Warranty

WTB products are warranted against defects in materials and workmanship. To read the full current warranty for your WTB product, see the Warranty section of our Web site, wtb.com

GI5-0508-1

6. Making a warranty claim

To make a warranty claim, see the Warranty section of our Web site, wtb.com

GI6-0508-1

7. Contact Information

If you have any questions or problems with any WTB product, please go to wtb.com for help.

GI7-0508-1

8. Disclaimer

The original English language version/meaning of these instructions supercedes all translations. WTB is not responsible for any errors in translation of these or any product instructions.

GI8-0508-1

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